

REMARKS

Claims 20, 29, 34, 35 and 38 are amended. Claims 1-38 remain in the application for consideration. In view of the following remarks, Applicant respectfully requests withdrawal of the rejections and forwarding of the application onto issuance.

Clarifying Amendment

The language of claim 20 has been clarified to change the word “a” to “an” in accordance with the Office’s objection. Applicant respectfully thanks the Office for the Office’s attention to detail.

§102 and §103 Rejections

Claims 21-22 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,496,802 to Van Zoest et al. (hereinafter “Van Zoest”).

Claims 35-38 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,269,122 to Prasad et al. (hereinafter “Prasad”).

Claims 1-6, 9-11, 13, 16, 17, 23-26 and 31 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,655,144 to Milne et al. (hereinafter “Milne”), in view of U.S. Patent No. 6,442,758 to Jang et al. (hereinafter “Jang”).

Claim 34 stands rejected under 35 U.S.C. §103(a) as being obvious over Van Zoest in view of Jang.

Claims 7-8, 12, 14-15, 27-28, and 32-33 stand rejected under 35 U.S.C. §103(a) as being obvious over Milne in view of Jang and Van Zoest.

1 Claims 18-20 stand rejected under 35 U.S.C. §103(a) as being obvious over
2 Milne and Jang in further view of U.S. Patent No. 6,314,569 to Chernock et al.
3 (hereinafter "Chernock").

4 Claims 29-30 stand rejected under 35 U.S.C. §103(a) as being obvious over
5 Van Zoest and Jang, in further view of Chernock.

6 Before discussing the substance of the Office's rejections, a short
7 discussion of the §103 standard is provided. Following this, a short discussion of
8 Applicant's subject matter is provided, along with a discussion of selected
9 references utilized by the Office in making out various rejections in the present
10 Office Action.

11 12 **The §103 Standard**

13 In making out a §103 rejection, the Federal Circuit has stated that when one
14 or more reference or source of prior art is required in establishing obviousness, "it
15 is necessary to ascertain whether the prior art *teachings* would appear to be
16 sufficient to one of ordinary skill in the art to suggest making the claimed
17 substitutions or other modification." *In re Fine*, 5 USPQ 2d, 1596, 1598 (Fed. Cir.
18 1988). That is, to make out a *prima facie* case of obviousness, the references must
19 be examined to ascertain whether the combined *teachings* render the claimed
20 subject matter obvious. *In re Wood*, 202 USPQ 171, 174 (C.C.P.A. 1979).

21 Moreover, there is a requirement that there must be some reason,
22 suggestion, or motivation *from the prior art*, as a whole, for the person of ordinary
23 skill to have combined or modified the references. *See, In re Geiger*, 2 USPQ 2d
24 1276, 1278 (Fed. Cir. 1987). Additionally, *particular findings* must be made as to
25 the reason the skilled artisan, with no knowledge of the claimed invention, would

1 have selected these components for combination in the manner claimed. *See, e.g.,*
2 *In Re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

3 It is impermissible to use the claimed invention as an instruction manual or
4 “template” to piece together the teachings of the prior art so that the claimed
5 invention is rendered obvious. One cannot use hindsight reconstruction to pick
6 and choose among isolated disclosures in the prior art to deprecate the claimed
7 invention. *In re Fritch*, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992).

8 A factor cutting against a finding of motivation to combine or modify the
9 prior art is when the prior art *teaches away* from the claimed combination. A
10 reference is said to teach away when a person or ordinary skill, upon reading the
11 reference, would be led in a direction divergent from the path that the applicant
12 took. *In re Gurley*, 31 USPQ 2d 1130, 1131 (Fed. Cir. 1994).

13 In order for a *prima facie* case of obviousness to be made, the resulting
14 combination or motivation must appear to show or suggest the claimed invention.
15 *In re Nielson*, 2 USPQ 2d 1525, 1528 (Fed. Cir. 1987).

16 In view of the standard for establishing a *prima facie* case of obviousness,
17 Applicant respectfully disagrees with the Office’s rejections of the present claims
18 and submits that the Office has not established a *prima facie* case of obviousness.
19

20 **Applicant’s Disclosure**

21 Perhaps a good place to start to appreciate the various claimed
22 embodiments in the present application is the “Background” section of the
23 application. There, various problems associated with visualizations are described.
24 Specifically, starting on page 1, line 12, the application states as follows:
25

1 One problem associated with prior art media players is they all tend
2 to display different types of media in different ways. For example, some
3 media players are configured to provide a "visualization" when they play
4 audio files. *A visualization is typically a piece of software that "reacts" to
the audio that is being played by providing a generally changing, often
artistic visual display for the user to enjoy.*

5 ***

6 [T]here are problems associated with prior art visualizations. As an
7 example, consider the following. One of the things that makes
8 visualizations enjoyable and interesting for users is the extent to which they
9 "mirror" or follow the audio being played on the media player. Past
10 visualization technology has led to visualizations that do not mirror or
follow the audio as closely as one would like. This leads to things such as a
lag in what the user sees after they have heard a particular piece of audio. It
would be desirable to improve upon this media player feature.

11
12 Material in the specification that describes the visualization embodiments
13 begins on page 15 at line 18. The references cited by the Office, by and large, do
14 not deal with *visualizations* as that term is contemplated and used in the present
15 application.

16 The Milne Reference

17
18 Milne describes methods and systems for providing synchronization of the
19 *timing* of various multimedia events, including an audio event. In accordance with
20 Milne's disclosure, clock objects are defined and are associated with an internal or
21 external source of current time. The clock objects are able to be displayed on a
22 display, but can be hidden once their linkages are defined. One or more
23 multimedia objects representative of audio, visual or other multimedia events,
24 including an audio object, are defined and linked to a particular clock object or
25 clock objects. Then, a processor synchronizes the multimedia objects with the

1 associated clock object or objects. Milne instructs that the various multimedia
2 events are then performed in synchronization with their associated clocks.

3 Milne goes to great lengths to explain how its various clocks can be
4 synchronized to, in turn, synchronize associated audio and video. For example, in
5 column 9, starting at line 44, Milne describes how audio and video sequences can
6 be synchronized, as shown in Fig. 11. In order to synchronize the audio and video
7 sequences, Milne instructs that the clocks of two players would be synchronized as
8 shown in Fig. 12. There, the audio player is viewed as the master clock and the
9 video player is slaved to the audio player so that it always follows the audio
10 player.

11 Thus, what Milne is concerned with is probably best thought of as
12 synchronizing presentation times through techniques that establish relationships
13 between clocks associated with different types of media. When viewed in the
14 context of the claimed subject matter, it becomes apparent that the various claimed
15 embodiments are really concerned with something that is quite different from
16 Milne.

17 18 **The Claimed Subject Matter Rejected Over Milne**

19 **Claim 1** recites a system for synchronizing a visualization with audio
20 samples comprising:

- 21
- 22 • one or more audio sources configured to provide audio samples that
are to be rendered by a media player;
 - 23 • an audio sample pre-processor communicatively linked with the one
24 or more audio sources and configured to receive and pre-process
25 audio samples before the samples are rendered, the pre-processing
providing characterizing data associated with each sample; and

- one or more effects configured to receive the characterizing data and use the characterizing data to render a visualization that is synchronized with an audio sample that is being rendered by the media player.

In making out the rejection of this claim, the Office argues that Milne teaches:

- (1) one or more audio sources configured to provide audio samples, and cites to column 16, lines 13-19, column 15, lines 48-60;
- (2) one or more effects configured to receive the characterizing data and use the characterizing data to render a visualization that is synchronized with an audio sample that is being rendered by the media player, and cites to column 17, lines 15-63, and Figs. 12 and 36; and
- (3) an audio sample pre-processor communicatively linked with the one or more audio sources and configured to receive and pre-process audio samples before the samples are rendered to provide characterizing data associated with each sample, and cites to column 19, lines 1-11.

The Office then states that Milne does not expressly teach a pre-processor and relies on Jang, citing to element 117 described in column 11, lines 1-2 and Fig. 6.

Based on these two references, the Office then argues that it would be obvious to combine the teachings of these references to render the claimed subject

1 matter obvious. As a motivation to combine the references, the Office argues such
2 would be obvious “in order to split the audio signal into stereo signals.” See,
3 Office Action, page 6, second paragraph.

4 Applicant respectfully disagrees with the Office’s analysis and application
5 of the cited references and respectfully traverses the Office’s rejections.

6 To begin with, Milne neither discloses nor suggests a system that renders a
7 *visualization* that is synchronized with an audio sample, as those terms are
8 contemplated and used in the context of the present application.

9 Consider first what a visualization is and how it is synchronized with an
10 audio sample in accordance with the subject matter of claim 1. It is to be
11 appreciated and understood that the description that is given below is not intended
12 to be used to limit application of the subject matter of claim 1 to anything other
13 than the specific language and terms that appear in claim 1. As such, aspects of
14 the discussion below simply illustrate features that can be utilized to implement a
15 system that can comprise components recited in claim 1.

16 Specifically, a visualization, as noted in the “Background” section, is
17 typically a piece of software that “reacts” to the audio that is being played by
18 providing a generally changing, often artistic visual display for the user to enjoy.
19 See, e.g. Specification, page 1, lines 12-17. A good illustration of an exemplary
20 visualization in the form of “electricity” appears in Fig. 6 in the rendering area of
21 the middle media player.

22 Now consider the description of visualizations that appears in the
23 Specification starting on page 15, line 18, an excerpt of which appears directly
24 below:
25

1 Fig. 8 shows one embodiment of a system configured to accurately
2 synchronize a visual representation with an audio waveform generally at
3 800. System 800 comprises one or more audio sources 802 that provide the
4 audio waveform. The audio sources provide the audio waveform in the
5 form of samples.

6 ***

7 An audio sample preprocessor 804 is provided and performs some
8 different functions. An exemplary audio sample preprocessor is shown in
9 more detail in Fig. 9.

10 The Specification then goes on to describe one specific implementation
11 example, aspects of which are recited in claim 1. Specifically, as noted in the
12 Specification starting on page 16 at line 11:

13 Referring both to Figs. 8 and 9, as the audio samples stream into the
14 preprocessor 804, it builds and maintains a collection of data structures
15 indicated generally at 806. Each audio sample that is to be played by the
16 media player has an associated data structure that contains *data that
17 characterizes the audio sample*. These data structures are indicated at
18 806a, 806b, and 806c. *The characterizing data is later used to render a
19 visualization that is synchronized with the audio sample when the audio
20 sample is rendered.* (Emphasis added).

21 ***

22 *Preprocessor 804 also preprocesses each audio sample to provide
23 characterizing data that is to be subsequently used to create a
24 visualization that is associated with each audio sample.* In one
25 embodiment, the preprocessor 804 comprises a spectrum analyzer module
902 (Fig. 9) that uses a Fast Fourier Transform (FFT) to convert the audio
samples from the time domain to the frequency domain. The FFT breaks
the audio samples down into a set of 1024 frequency values or, as termed in
this document, "frequency data." The frequency data for each audio sample
is then maintained in the audio sample's data structure. In addition to
maintaining the frequency data, the preprocessor 804 can include a
waveform analysis module 904 that analyzes the audio sample to provide
waveform data. The preprocessor 804 can also includes a stream state
module 906 that provides data associated with the state of the audio stream
(i.e. paused, stopped, playing, and the like). (Emphasis added).

1 Referring specifically to Fig. 8, a buffer 808 can be provided to
2 buffer the audio samples in a manner that will be known and appreciated by
3 those of skill in the art. A renderer 810 is provided and represents the
4 component or components that are responsible for actually rendering the
5 audio samples. The renderer can include software as well as hardware, i.e.
6 an audio card.

7 Fig. 8 also shows audio rendering object or VisHost 608. Associated
8 with the audio rendering object are various so-called effects. In the
9 illustrated example, the effects include a dot plane effect, a bar effect, and a
10 ambience effect. *The effects are essentially software code that plugs into
11 the audio rendering object 608.* Typically, such effects can be provided by
12 third parties that can program various creative visualizations. The effects
13 are responsible for creating a visualization in the unified rendering area
14 406. (Emphasis added).

15 In the illustrated and described embodiment, the audio rendering
16 object operates in the following way to ensure that any visualizations that
17 are rendered in unified rendering area 406 are synchronized to the audio
18 sample that is currently being rendered by renderer 810. The audio
19 rendering object has an associated target frame rate that essentially defines
20 how frequently the unified rendering area is drawn, redrawn or painted. As
21 an example, a target frame rate might be 30 frames per second.
22 Accordingly, 30 times per second, the audio rendering object issues what is
23 known as an invalidation call to whatever object is hosting it. The
24 invalidation call essentially notifies the host that it is to call the audio
25 rendering object with a Draw or Paint command instructing the rendering
object 608 to render whatever visualization is to be rendered in the unified
rendering area 406. When the audio rendering object 608 receives the
Draw or Paint command, it then takes steps to ascertain the preprocessed
data that is associated with the currently playing audio sample. Once the
audio rendering object has ascertained this preprocessed data, it can issue a
call to the appropriate effect, say for example, the dot plane effect, and
provide this preprocessed data to the dot plane effect in the form of a
parameter that can then be used to render the visualization.

26 The notion of "characterizing data" is further discussed on page 19, starting
27 at line 23. Specifically, the audio samples are pre-processed *to provide
28 characterizing data.* One desirable feature of characterizing data is that it
29

1 provides some measure from which a visualization can be rendered. Thus, the
2 characterizing data associated with the audio samples is used to render a
3 visualization that is synchronized with the audio samples.

4 The Office argues that Milne discloses an audio sample pre-processor that
5 pre-processes audio samples to provide characterizing data associated with each
6 sample. The excerpt relied on by the Office (i.e. column 19, lines 1-11) is
7 reproduced below in its entirety:

8
9 FIG. 36 is an illustration of various clock objects linked together and
10 multimedia objects in accordance with a preferred embodiment. The
11 linkages are created using a cursor to rubber band a geometric figure, such
12 as a line segment, to join up a clock object 3610 to another clock object
13 3620, or multimedia objects 3630 and 3640. FIG. 37 is an illustration of a
14 visual object synchronized with an audio object in accordance with a
15 preferred embodiment. The visual clock object 3710 is synchronized with
16 the audio clock object 3720 to control the associated multimedia
17 presentation of music and displays represented by the animation
18 multimedia object 3730.

19 Applicant has studied Milne in its entirety and can find no disclosure or
20 suggestion of a system comprising, *inter alia*, an audio pre-processor configured
21 to pre-process audio samples to provide *characterizing data* associated with each
22 sample, and one or more effects configured to receive the *characterizing data* and
23 *use the characterizing data* to render a visualization that is synchronized with an
24 audio sample that is being rendered.

25 Additionally, the Office's reliance on Jang is misplaced for a couple of
different reasons. First, it appears that any similarities between Jang's "audio pre-processor" and the presently recited audio sample pre-processor are in *name only*. That is, Jang's pre-processor appears to be provided and used for an entirely

1 different reason—i.e. in connection with its MPEG Packet Processor 108, and not
2 to provide *characterizing data* associated with audio samples. Second, the
3 Office's reliance on Jang and its stated motivation to combine Milne and Jang
4 appear to be based on hindsight reconstruction that has utilized Applicant's
5 disclosure as a temple to hunt through the prior art – an act that has been
6 specifically proscribed by the Federal Circuit. Further, from a technical
7 standpoint, it is unclear at best why one would incorporate Jang's pre-processor
8 with Milne's system.

9 Applicant respectfully submits that the Office has failed to establish a
10 *prima facie* case of obviousness. Accordingly, for at least this reason, claim 1 is
11 allowable.

12 **Claims 2-8** depend from claim 1 and are allowable as depending from an
13 allowable base claim. These claims are also allowable for their own recited
14 features which, in combination with those recited in claim 1, are neither disclosed
15 nor suggested in the references of record, either singly or in combination with one
16 another. Given the allowability of these claims, the rejection of claims 7 and 8
17 over the combination with Van Zoest is not seen to add anything of significance.

18 **Claim 9** recites a media player comprising:

- 19
- 20 • an audio sample pre-processor configured to receive and pre-process
21 audio samples before the samples are rendered by the media player,
the pre-processing providing frequency data associated with each
sample; and
 - 22 • one or more effects configured to receive the frequency data and use
23 the frequency data to render a visualization that is synchronized with
24 an audio sample that is being rendered by the media player.
- 25

1 In making out the rejection of this claim, the Office argues that Milne
2 discloses "one or more effects" as recited and cites to column 17, lines 15-63.
3 Further, the Office argues that Milne discloses an audio sample pre-processor as
4 recited and cites to column 16, lines 13-39, column 15, lines 48-60, and column
5 19, lines 1-11. The Office then apparently relies on Jang in much the same way as
6 it relied on Jang to make out the rejection of claim 1. Applicant respectfully
7 disagrees that traverses the Office's rejection.

8 Specifically, Applicant has studied Milne and Jang in great detail and can
9 find no disclosure or suggestion of a media player that comprises an audio sample
10 pre-processor configured to pre-process audio samples to provide frequency data,
11 and one or more effects configured to receive the frequency data and *use the*
12 *frequency data to render a visualization that is synchronized with an audio sample*
13 *that is being rendered*. The Office has failed to establish a *prima facie* case of
14 obviousness. Accordingly, this claim is allowable.

15 **Claims 10-12** depend from claim 9 and are allowable as depending from an
16 allowable base claim. These claims are also allowable for their own recited
17 features which, in combination with those recited in claim 9, are neither disclosed
18 nor suggested in the references of record, either singly or in combination with one
19 another. Given the allowability of these claims, the rejection of claim 12 over the
20 combination with Van Zoest is not seen to add anything of significance.

21 **Claim 13** recites a system for synchronizing a visualization with audio
22 samples comprising:

- 23 • an audio sample pre-processor configured to receive and preprocess
24 audio samples before the samples are rendered by a renderer that
25 comprises part of a media player, the audio sample preprocessor

1 preprocessing the samples to provide characterizing data associated
2 with each sample, the characterizing data comprising a timestamp
3 associated with each audio sample, the timestamp being assigned in
4 accordance with when the audio sample is calculated to be rendered
5 by the renderer;

- 6 • multiple data structures configured to hold the characterizing data,
7 each data structure being associated with an audio sample;
- 8 • an audio rendering object configured to call the audio sample pre-
9 processor to ascertain the characterizing data associated with an
10 audio sample that is currently being rendered by the renderer;
- 11 • the audio sample pre-processor being configured to ascertain said
12 characterizing data by querying the renderer for a time associated
13 with the currently-rendered audio sample, and then using said time
14 to identify a data structure having a timestamp that is nearest in
15 value to said time; and
- 16 • one or more effects configured to receive characterizing data that is
17 associated with the data structure having the timestamp that is
18 nearest in value to said time, and use the characterizing data to
19 render a visualization that is synchronized with the audio sample that
20 is being rendered by the renderer.

21
22 In making out the rejection of this claim, the Office argues that Milne
23 discloses:

- 24 (1) an audio rendering object as recited and cites to column
25 6, lines 21-33 and column 8, lines 32-39;
- (2) one or more effects as recited and cites to column 17,
lines 15-63;
- (3) an audio sample pre-processor as recited and cites to
column 9, lines 43-61, column 8, lines 40-65, column 16,
lines 13-39, column 15, lines 48-60, and column 16,
lines 40 to column 17, line 12.

1 The Office then argues that Milne does not specifically teach a pre-
2 processor and then relies on Jang in much the same way as it relied on Jang to
3 make out the rejections of the claims discussed above. Applicant respectfully
4 disagrees with the Office's assessment and combination of the references.
5 Applicant respectfully submits that the Office has not established a *prima facie*
6 case of obviousness. Specifically, nowhere does Milne disclose or suggest a
7 system comprising an audio sample pre-processor configured to preprocess audio
8 samples to provide characterizing data, and one or more effects configured to
9 receive characterizing data and use the characterizing data to render a visualization
10 that is synchronized with the audio sample. For this reason alone, the claim is
11 allowable.

12 **Claims 14-20** depend from claim 13 and are allowable as depending from
13 an allowable base claim. These claims are also allowable for their own recited
14 features which, in combination with those recited in claim 13, are neither disclosed
15 nor suggested in the references of record, either singly or in combination with one
16 another. Given the allowability of these claims, the rejections of claims 14-15
17 over the combination with Van Zoest, and of claims 18-20 over Chernok are not
18 seen to add anything of significance.

19 **Claim 23** recites a method of providing a visualization comprising:
20

- 21 • receiving multiple audio samples;
- 22 • pre-processing the audio samples before they are rendered by a
23 media player renderer, *the pre-processing providing characterizing*
24 *data for each sample*;
- 25 • determining when an audio sample is being rendered by the media
player renderer; and

- responsive to said determining, using *the characterizing data that is associated with the audio sample that is being rendered to provide a visualization*.

In making out the rejection of this claim, the Office argues that Milne discloses:

- (1) receiving multiple audio samples and cites to column 16, lines 13-39 and column 15, lines 48-60;
- (2) determining when an audio is being rendered as recited and cites to column 19, lines 1-11 and column 17, lines 15-63;
- (3) responsive to determining, using the characterizing data that is associated with the audio sample that is being rendered to provide a visualization, and cites to column 17, lines 15-63; and
- (4) preprocessing the audio samples before they are rendered by a media player to provide characterizing data, and cites to column 16, lines 13-39, and column 15, lines 48-60.

The Office then relies on Jang's teaching of a pre-processor and argues that it would be obvious to combine the two teachings to render the subject matter of this claim obvious. Applicant respectfully disagrees with the Office's interpretation and application of these references. Specifically, Milne does not teach, as the Office argues, a method that pre-processes audio samples to provide

1 characterizing data for each sample, and then uses the characterizing data to
2 provide a visualization. Accordingly, for at least this reason, the Office has failed
3 to establish a *prima facie* case of obviousness and this claim is allowable.

4 **Claims 24-28** depend from claim 23 and are allowable as depending from
5 an allowable base claim. These claims are also allowable for their own recited
6 features which, in combination with those recited in claim 23, are neither disclosed
7 nor suggested in the references of record, either singly or in combination with one
8 another. Given the allowability of these claims, the rejection of claims 27-28 over
9 the combination with Van Zoest is not seen to add anything of significance.

10 **Claim 31** recites a method of providing a visualization comprising:

- 11 • calling an audio sample pre-processor for characterizing data that is
12 associated with an audio sample that is currently being rendered by a
13 media player renderer;
- 14 • calling the media player renderer for a time associated with a
15 currently-rendered audio sample;
- 16 • using the time to select a data structure containing characterizing
17 data associated with the currently-rendered audio sample; and
- 18 • providing the characterizing data to a component for rendering a
19 visualization.

20 In making out the rejection of this claim, the Office argues that Milne
21 discloses the various acts recited in this claim and cites to various sections of
22 Milne in support therefore. The Office then relies on Jang in much the same way
23 it relied on Jang to reject the above-discussed claims. Applicant respectfully
24 disagrees with the Office's interpretation and application of Milne. Specifically,
25 Milne neither discloses nor suggests the subject matter of this claim. For example,
this claim recites "calling an audio sample pre-processor for characterizing data

1 that is associated with an audio sample” and “providing the characterizing data to
2 a component for rendering a visualization.”

3 As noted above, neither Milne nor Jang disclose or suggest the use of
4 *characterizing data* as that term is contemplated in the Specification and recited in
5 this claim. Accordingly, the Office has failed to establish a *prima facie* case of
6 obviousness. Accordingly, for at least this reason, this claim is allowable.

7 **Claims 32-33** depend from claim 31 and are allowable as depending from
8 an allowable base claim. These claims are also allowable for their own recited
9 features which, in combination with those recited in claim 31, are neither disclosed
10 nor suggested in the references of record, either singly or in combination with one
11 another. Given the allowability of these claims, the rejection of claims 32-33 over
12 the combination with Van Zoest is not seen to add anything of significance.

13 14 **The Claimed Subject Matter Rejected Over Van Zoest**

15 **Claims 21-22** stand rejected under 35 U.S.C. §102(e) as being anticipated
16 by Van Zoest. Claim 21 recites a system for processing audio samples
17 comprising:

- 18 • a timestamp module for assigning timestamps to audio samples that
19 are to be rendered by a media player renderer;
- 20 • a spectrum analyzer for processing the audio samples to provide
21 frequency data associated with the audio samples;
- 22 • multiple data structures each of which being associated with an
23 audio sample, the data structures each containing timestamp data and
24 frequency data for its associated audio sample; and
- 25 • the system being configured to use the timestamp data to ascertain a
data structure associated with an audio sample that is currently being
rendered by the media player renderer and provide the frequency
data associated with that audio sample *so that the frequency data can
be used to render a visualization associated with that audio sample.*

1
2 In making out the rejection of this claim, the Office argues that Van Zoest
3 discloses:

- 4
- 5 (1) a timestamp module as recited, citing to column 4, lines 57-
6 65;
 - 7 (2) a spectrum analyzer as recited, citing to column 16, lines 9-
8 43;
 - 9 (3) multiple data structures as recited, citing to column 9, lines
10 24-65, column 4, lines 57-65, and column 16, lines 9-14; and
 - 11 (4) a system configured to use the timestamp data to ascertain a
12 data structure associated with an audio sample and provide
13 the associated frequency data *so that the frequency data can*
14 *be used to render a visualization associated with that audio*
15 *sample*, citing to column 18, lines 55 through column 19, line
16 12.
- 17

18 Applicant respectfully disagrees with the Office's interpretation of this
19 reference and therefore traverses the rejection.

20 Van Zoest discloses systems and methods for providing access to electronic
21 works over a network. In Van Zoest's system, a user can request access to a
22 particular work, such as songs, movies and albums. Before such a request is
23 granted, the Van Zoest's system verifies that the user is authorized to access to the
24 work. In one of Van Zoest's embodiments, the user verifies that they are
25 authorized to access an electronic copy of the work by demonstrating that they

1 possess a physical copy of the work. If a user's authorization is verified, the user
2 may then be provided with access to an electronic copy of the work by such
3 techniques as downloading or streaming.

4 With respect to the verification processing, Van Zoest describes one
5 approach, which is cited by the Office as anticipating the spectrum analyzer
6 recited in this claim, see, e.g. column 16, lines 9-43, which is reproduced in its
7 entirety below, along with preceding text to provide context:

8
9 In a preferred embodiment, such a comparison may make sure it is
10 comparing like data with many well-known techniques, such as correlation
11 and/or phase shifting. Specifically, the Verification Server 141 requests a
12 portion of data from a client machine. The client machine collects this data
13 from a physical work and sends this data to the Distributor Location 100.
14 The Verification Server 141 receives the corresponding data collected from
15 the physical work and determines whether this data can match up with the
16 data of one or more stored electronic works. To reduce possible problems
17 caused by mechanical error, the comparison may not match the data exactly
18 as it is received. Instead, the Verification Server 141 may first identify
19 whether any portion of the sample received from the first work potentially
20 matches any portion of a stored electronic work or sample of a stored
21 electronic work. Once it identifies the corresponding portions of data for
22 maximum correlation, the Verification Server 141 may use correlation
23 and/or phase shifting techniques to manipulate the data so that the
24 comparison is not thrown off by mechanical inaccuracies, such as the
25 inaccuracy of the user's personal computer reading a CD.

19 For example, as shown in FIG. 5, the customer sample may need to
20 be shifted forward or backward to perform a more accurate verification.
21 The results of shifting one of the samples across time is shown in FIG. 6.
22 Once the Verification Server 141 identifies the corresponding portions of
23 the samples with maximum correlation, Verification Server 141 can size
24 down the two waveforms until they contain the same portion of the track, as
25 shown in FIGS. 6 and 7.

24 Once the most closely corresponding portions of the samples or
25 works are identified, the verification process compares these possibly
corresponding portions of the samples. In a preferred embodiment, the

1 verification process runs a Fast Fourier Transform ("FFT") algorithm on
2 each WAV samples to generate their respective power spectrums. The
computer can then compare these two spectrums.

3 The Verification Server 141 performs the FFT. The FFT provide a
4 frequency analysis of the data. The Verification Server 141 compares either
5 or both channels of a stereo audio file and averages the results. When the
6 data on the physical work matches the data on the electronic work perfectly,
7 the difference between the audio files in the power spectrum can be 0.000.
8 Conversely, if a CD is badly scratched at this specific location on the disk
9 or the physical work is different from the electronic work, the two data may
not compare too well. However, in a preferred embodiment, a scratch
should only affect one or two samples of the 20 samples so that the system
could still recognize the match. Additionally, as an alternative to FFT, the
Verification Server 141 can perform direct waveform comparisons of the
sampled and stored data.

10 If the received information identically or substantially matches only
11 one stored CD, then the Verification Server 141 automatically stores a
12 pointer to the formatted version of this title in the client's personal account.
13 Otherwise, the Verification Server 141 asks for additional data (e.g., send
14 the seven sectors of data found on track four at the tenth second of playing
15 time). The system repeats this process until it has received an acceptable
16 amount of data to verify or reject the CD in the user's machine or until it
17 completes a predetermined set of requests. The number of requests for
information by the Verification Server 141 can vary as necessary, as can the
number of channels of data and sampling rate.

18 Thus, what is described in this excerpt is a verification process that seeks to
19 verify that a user is authorized to receive a particular work. It does this by
20 comparing aspects of a user's physical work, with aspects of an electronic work
21 desired for receipt by a user.

22 The Office then argues that Van Zoest anticipates the subject matter of item
23 (4) above and cites to column 18, line 55 through column 19, line 12 in support
24 therefore. The entirety of this excerpt is provided below for the convenience of
25 the Office:

1 Once a work is loaded or accessible to a user, the user can access
2 those works through a variety of graphical user interfaces and organization
3 models, such as a juke box, alphabetically, by artist, by type of work, by
4 category of work, by verification date, etc.. In a preferred embodiment, the
works are organized as shown in FIGS. 8-19.

5 The user may be provided with access to the electronic works
6 identified in their account by downloading, streaming, email enclosure, or
7 many other well-known techniques. Such access may be provided via the
8 user's personal computer, cell phone, personal digital assistant, pager, car
9 stereo, television or any media player. Before providing such access, the
10 Content Delivery System 152 may attempt to identify what media player
11 the user is accessing the works with. These characteristics may be
12 automatically provided to the Distributor Location 100 as a header or some
13 other information field included with the user data. The Distributor
14 Location 100 could also request the information automatically from the
15 user's device or the user. If the information is requested from the user, the
16 user could identify their device by manually entering "cell phone" into a
17 blank field or selecting their device from a list of available devices. In an
18 alternative embodiment, it may also be able to identify the user's device to
19 accommodate for geographically specific server farms.

20 The subject claim language that the Office argues is anticipated by this
21 excerpt is as follows:

22 ***

23 the system being configured to use the timestamp data to ascertain a
24 data structure associated with an audio sample that is currently being
25 rendered by the media player renderer and *provide the frequency data*
associated with that audio sample so that the frequency data can be used to
render a visualization associated with that audio sample.

26 Nowhere does Van Zoest disclose or suggest a system that provides
27 frequency data associated with an audio sample so that the frequency data *can be*
28 *used to render a visualization* associated with that audio sample. Perhaps this is
29

1 because of Van Zoest's divergent use of its frequency data. Specifically, Van
2 Zoest uses its frequency data simply to effect a comparison of two particular
3 works so that a user can be verified to receive a copy of the work. The presently-
4 recited subject matter, on the other hand, incorporates the frequency data in the
5 process of rendering a visualization that is associated with a particular audio
6 sample.

7 Accordingly, for at least this reason, this claim is allowable.

8 **Claim 22** depends from claim 21 and is allowable as depending from an
9 allowable base claim. This claim is also allowable for its own recited features
10 which, in combination with those recited in claim 21, are neither disclosed nor
11 suggested in the references of record, either singly or in combination with one
12 another.

13 **Claim 29** has been amended and recites a method of providing a
14 visualization comprising [added language appears in bold italics]:

- 15
- 16 • receiving multiple audio samples;
- 17 • pre-processing the audio samples before they are rendered by a
18 media player renderer, the pre-processing comprising at least (1)
19 using a Fast Fourier Transform to provide frequency data associated
20 with the samples, and (2) associating a timestamp with each sample;
- 21 • maintaining frequency data and a timestamp for each sample in a
22 data structure;
- 23 • determining when an audio sample is being rendered by a media
24 player renderer by:
- 25 • ascertaining a time associated with a currently-rendered sample; and
- selecting a data structure having a timestamp that is nearest the time;
and
- providing *frequency* data associated with the selected data structure
to a component configured to *use the frequency data to render* the
visualization.

1 In making out the rejection of this claim, the Office argues that Van Zoest
2 discloses the recited acts of “receiving”, “maintaining”, and “pre-processing”.
3 The Office then argues that Jang teaches the act of “pre-processing” and further,
4 that Chernock teaches the acts of “determining”, “selecting”, and “providing”.
5 The Office then argues that it would be obvious to combine these teachings to
6 render the subject matter of this claim obvious. Applicant respectfully disagrees
7 with the Office’s interpretation and application of these references.

8 Applicant has made a clarifying amendment to this claim to correct an
9 antecedent basis issue. Specifically, the term “characterizing” in the last clause of
10 the claim has been replaced with the term “frequency” to provide a consonant
11 meaning within the claim. Additionally, the use of the frequency data has been
12 clarified to recite that the frequency data is used to *render the visualization*.

13 Applicant submits that none of the references either singly or in
14 combination with one another teach or suggest the subject matter of this claim.
15 Accordingly, for at least this reason, this claim is allowable.

16 **Claim 30** depends from claim 29 and is allowable as depending from an
17 allowable base claim. This claim is also allowable for its own recited features
18 which, in combination with those recited in claim 29, are neither disclosed nor
19 suggested in the references of record, either singly or in combination with one
20 another.

21 **Claim 34** has been amended and recites one or more computer-readable
22 media having computer-readable instructions thereon which, when executed by a
23 computer, cause the computer to [added language appears in bold italics]:
24
25

- pre-process audio samples using a Fast Fourier Transform to provide frequency data, the audio samples being pre-processed before they are rendered by a media player renderer;
- query for frequency data that is associated with an audio sample that is currently being rendered by the media player renderer;
- query for a time associated with the currently-rendered audio sample;
- use the time to select a data structure containing frequency data associated with the currently-rendered audio sample; and
- provide the frequency data to a component *that uses the frequency data for* rendering a visualization.

In making out the rejection of this claim. The Office argues that Van Zoest discloses, *inter alia*, providing frequency data to a component for rendering a visualization. Applicant respectfully disagrees. Van Zoest discloses simply using frequency data in a verification process that is tangential, at best, to any rendering that takes place in its system. Nonetheless, Applicant has clarified the present claim to recite that the instructions cause a computer to “provide the frequency data to a component *that uses the frequency data for* rendering a visualization.” None of the references disclose or suggest this subject matter either singly or in combination with one another. The Office’s reliance on Jang is misplaced, particularly in view of the clarification made by Applicant.

Accordingly, for at least this reason, this claim is allowable.

The Claimed Subject Matter Rejected Over Prasad

Claim 35 has been amended and recites a method of providing a visualization comprising [added language appears in bold italics]:

- defining a frame rate at which visualization frames *of a visualization* are to be rendered, *the visualization frames being rendered from*

1 *characterizing data that is computed from audio samples and*
2 *which is used to create the visualization;*

- 3 • setting a threshold associated with an amount of time that is to be
4 spent rendering a visualization frame;
- 5 • monitoring the time associated with rendering individual
6 visualization frames;
- 7 • determining whether a visualization frame rendering time exceeds
8 the threshold; and
- 9 • providing an effective frame rate for rendering visualization frames
10 that is longer than the defined frame rate if the determined
11 visualization frame rendering time exceeds the threshold.

12 In making out the rejection of this claim, the Office argues that the claim is
13 anticipated by Prasad, citing to column 6, lines 1-60, column 7, lines 29-59, and
14 column 7, lines 1-28 in support therefore. Applicant respectfully disagrees and
15 traverses the Office's rejection.

16 Prasad discloses methods and apparatus for synchronizing audio and video
17 streams *in a video conferencing system*. During a video conferencing session,
18 audio and video streams are transmitted from one processing system to a remote
19 processing system, where they are recorded. Because the video stream has a
20 variable frame rate during transmission, extra frames are inserted into the recorded
21 video stream in order to maintain a constant, predetermined frame rate. During
22 playback, synchronization information from the audio stream is provided by an
23 audio playback process to a video playback process in order to synchronize the
24 start of playing the audio and video streams, as well as to repeatedly synchronize
25 the audio and video streams during playback. Thus, the context in which Prasad's
 methods and systems operate is entirely different from the context associated with
 the subject matter of claim 35.

1 In an attempt to clarify the context in which the subject matter of claim 35
2 is employed, the claim has been amended. Specifically, the claim has been
3 amended to clarify that the act of “defining” is performed to define a frame rate at
4 which visualization frames *of a visualization* are to be rendered. A further
5 clarification is provided in that the visualization frames are rendered from
6 characterizing data that is *computed from audio samples and which is used to*
7 *create the visualization.*

8 Prasad neither discloses nor suggests any such method. Accordingly, for at
9 least this reason, this claim is allowable.

10 **Claims 36 and 37** depend from claim 35 and are allowable as depending
11 from an allowable base claim. These claims are also allowable for their own
12 recited features which, in combination with those recited in claim 35, are neither
13 disclosed nor suggested in the references of record, either singly or in combination
14 with one another.

15 **Claim 38** has been amended and recites one or more computer-readable
16 media having computer-readable instructions thereon which, when executed by a
17 computer, cause the computer to [added language appears in bold italics]:

- 18 • set a threshold associated with an amount of time that is to be spent
19 rendering a visualization frame for a given frame rate, *said*
20 *visualization frame being associated with a visualization that is*
21 *rendered using characterizing data computed from audio samples,*
22 *which characterizing data is used to create the visualization;*
- 23 • monitor the time associated with rendering individual visualization
24 frames;
- 25 • determine whether a visualization frame rendering time exceeds the
threshold; and
- provide an effective frame rate for rendering the visualization that is
longer than the defined frame rate if the determined visualization
frame rendering time exceeds the threshold.


1
2 In making out the rejection of this claim, the Office argues that the claim is
3 anticipated by Prasad, citing to column 6, lines 1-60, column 7, lines 1-28, and
4 column 5, line 48 through column 6, line 60 in support therefore. Applicant
5 respectfully disagrees and traverses the Office's rejection.

6 As noted above, Prasad discloses methods and apparatus for synchronizing
7 audio and video streams *in a video conferencing system*. Thus, the context in
8 which Prasad's methods and systems are employed is quite different from the
9 context in which the subject matter of claim 38 is employed. In an attempt to
10 clarify the context of the presently-claimed subject matter, this claim has been
11 amended to recite that the visualization frame is associated with a *visualization*
12 that is *rendered using characterizing data computed from audio samples*, and
13 that the characterizing data is used to *create* the visualization.

14 As Prasad neither discloses nor suggests any such subject matter, this claim
15 is allowable.
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Respectfully Submitted,

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